

APPROVALS		
Meaning / Title	Signature	Date
Initial Release		
Author: Technician	Lara Munoz, Andres-g021476	28-Jun-2016 11:19 (GMT -0500)
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Quality Engineer	Rodriguez Bosc, Jose-g042099	01-Jul-2016 15:01 (GMT -0500)
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End of Approvals		

ELP, Lesni Catalytic Abator Plan System

Purpose	To provide specific, written guidance for lockout-tagout authorized personnel on how to de-energize, isolate, and reenergize the equipment; and to prevent the unexpected start-up or release of energy that could result in injury to employees.
Scope	This procedure applies to personnel who perform service or maintenance on equipment, including any outside contractors, at Boston Scientific, E69096-100
Records Created	None
References	005505 Equipment Lockout Policy 006609 Writing and Authorizing Equipment Procedures 006656 Hot Work Permit, Red Tag and Lockout/Tagout – CLONMEL FACILITY MAINTENANCE ONLY 045654 Temporary Operational Interruptions and Troubleshooting Operations 070354 Global Workflow User Assistance Guide 005508 Laser Safety
Terminology	Refer to 005505 Equipment Lockout Policy Clonmel Facility Maintenance: refer to 006656 Hot Work Permit, Red Tag and Lockout/Tagout St. Paul: refer to 045654 Temporary Operational Interruptions and Troubleshooting Operations
Description of Change	Available at the end of the document.

1. Equipment Description

Machine Description: Lesni Abator System

Model #:CAP 250

Energy Sources: AC Voltage, Nitrogen, Compress Air

Magnitude: 480V 3 phase volts

80 psi nitrogen

80 psi Compress Air

2. Machine Shut down Process

- Step 1.** Notify Affected Employees of pending shut down and application of lockout/tagout devices (operators, area personnel).
- Step 2.** Turn off the Lesni switch.
- Step 3.** Flip master breaker switch to "OFF" position.
- Step 4.** Lockout/Tagout of master breaker, using group #2 LO device.
- Step 5.** Place off breaker switch to Left or "OFF" position. (Sterilization UPS Panel, Abator breaker)
- Step 6.** Lockout/Tagout breaker located on UPS distribution panel using group #5 LO device.
- Step 7.** Close main compress air valve on Lesni system.
- Step 8.** Lockout/Tagout of air compress valve located on Lesni system, using group #16 LO device.
- Step 9.** Close main nitrogen air valve on Lesni system
- Step 10.** Lockout/Tagout of nitorgen valve located on Lesni system, using group #16 LO device.
- Step 11.** Relieve, restrain, block, disconnect, or otherwise render safe all stored or residual energy from the system.
- Step 12.** Verify equipment is disconnected from energy source(s) and is in a zero energy state. Check that no personnel are exposed.

- Step 13.** Verify isolation by activating the normal operating controls. Caution: Return control(s) to neutral or "OFF" position after verification.
- Step 14.** Verify no energy is present on panel at line side of disconnect switch by testing with a multimeter or voltage detector. Caution: Prior to using voltage detector or multimeter, ensure unit is functional.

Group #2 LO Device



Lock and Tag

Group #5 LO Device

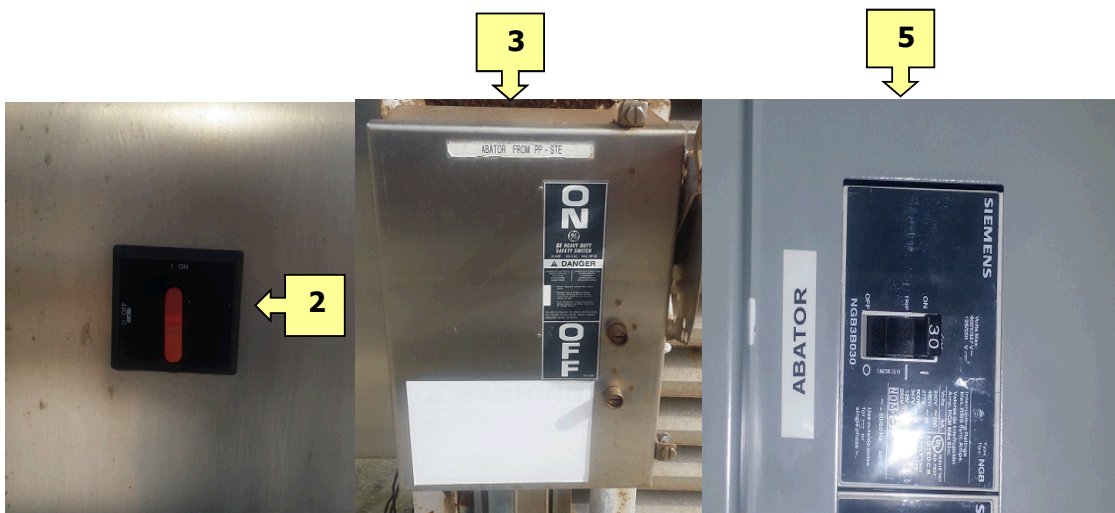


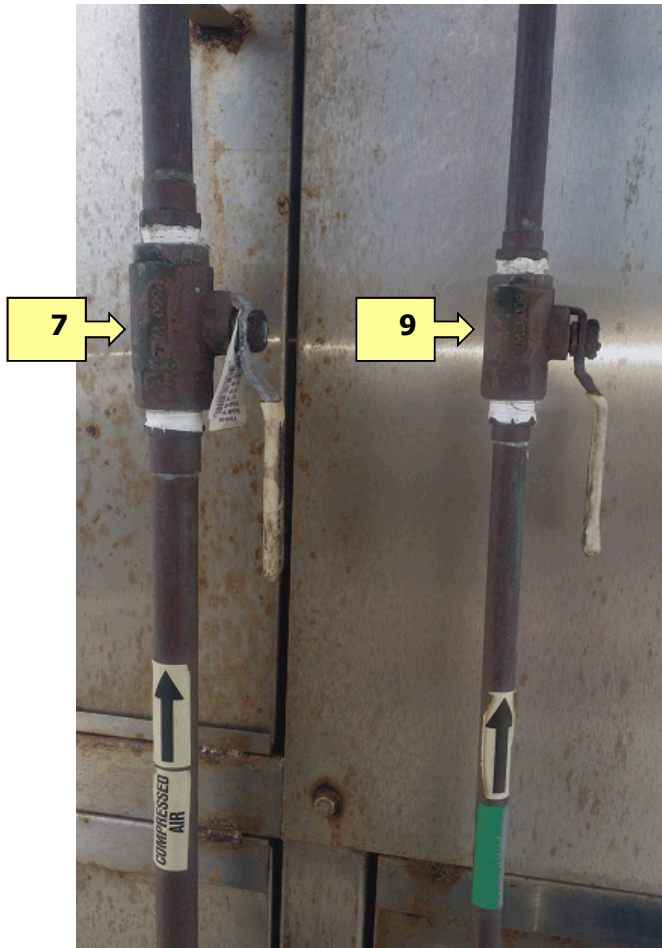
Single Pole Lockout (BL04): Breaker switch

Group LO #16



Ball Valve Lockout





3. Release from Lockout/Tagout Process

- Step 1.** Notify employees in area of release from lockout/tagout. Inspect area to ensure all nonessential items have been removed, and that the Lesni system is operationally intact.
- Step 2.** Ensure all employees in work area are removed or safely positioned.
- Step 3.** Remove lockout/tagout Note: Each authorized employee shall remove the lockout/tagout device that they applied as stated in Section 4, Authorization.
- Step 4.** Turn switch to Right, into the "ON" position, to reenergize the system and return equipment to service.

4. Authorization

Only Boston Scientific Facilities maintenance technicians trained in lockout/tagout procedures or authorized employees trained in lockout/tagout procedures are authorized to install lockout/tagout devices in accordance with company procedures. Only the installer or the maintenance leader shall remove lockout/tagout devices.

Failure to comply with established procedures may result in disciplinary action or termination.

Description of Change

Revision	Description of Change
A	Initial Release. ELP was executed to ensure instructions could be executed as written.

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NOTE: Severity and probability estimation based on machine with no safeguards in place. All risk initially determined to be intolerable without additional safeguarding.

Department: _____ Machine Name & Model #: _____

Task	Hazard	Description of Hazard	Potential For Exposure	Exposure Level	Risk Level	Protective Measures (Alternative Methods)
1.	Choose an item. Choose an item. Choose an item. Choose an item.		Choose an item. Choose an item. Choose an item. Choose an item.	Choose an item. Choose an item. Choose an item. Choose an item.	Choose an item. Choose an item. Choose an item. Choose an item.	Choose an item. Choose an item. Choose an item. Choose an item.
2.	Choose an item. Choose an item. Choose an item. Choose an item.		Choose an item. Choose an item. Choose an item. Choose an item.	Choose an item. Choose an item. Choose an item. Choose an item.	Choose an item. Choose an item. Choose an item. Choose an item.	Choose an item. Choose an item. Choose an item. Choose an item.
3.	Choose an item. Choose an item. Choose an item. Choose an item.		Choose an item. Choose an item. Choose an item. Choose an item.	Choose an item. Choose an item. Choose an item. Choose an item.	Choose an item. Choose an item. Choose an item. Choose an item.	Choose an item. Choose an item. Choose an item. Choose an item.

4.	Choose an item.		Choose an item.	Choose an item.	Choose an item.	Choose an item.
	Choose an item.		Choose an item.	Choose an item.	Choose an item.	Choose an item.
	Choose an item.		Choose an item.	Choose an item.	Choose an item.	Choose an item.
	Choose an item.		Choose an item.	Choose an item.	Choose an item.	Choose an item.
5.	Choose an item.		Choose an item.	Choose an item.	Choose an item.	Choose an item.
	Choose an item.		Choose an item.	Choose an item.	Choose an item.	Choose an item.
	Choose an item.		Choose an item.	Choose an item.	Choose an item.	Choose an item.
	Choose an item.		Choose an item.	Choose an item.	Choose an item.	Choose an item.

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Hazard	
Term	Definition
Electrical	Exposure to electrical current that could create shock, burn, or death by contact.
Amputation	Exposure to equipment or machine hazards which have the ability to dismember or remove body parts.
Laceration	Any cut to skin which requires more than first aid (i.e. stitches, butterfly strips, etc)
Noise	Exposure to sound which is measured at 85dBA or greater.
Ionizing Radiation	Any radiation, as a stream of alpha particles or x-rays, that produces ionization as it passes through a medium.
Non-Ionizing Radiation	Electromagnetic radiation, the photons of which lack the energy required to ionize atoms or induce ion formation; NIR includes sound, ultraviolet, visible, and infrared light, microwaves, and radiowaves. Cf ionizing radiation
Crushing	An injury that occurs because of pressure from a heavy object onto a body part. A crush injury may also arise from squeezing of a body part between two objects.
Chemical Exposure	Exposure to any element, chemical compound, or mixture of elements and or compounds which may cause sickness or death to a human being.

Potential for Exposure	
Term	Definition
Frequent	Exposure to hazards at a minimum of 3 times per task.
Periodic	Exposure to hazards at a minimum of 1 time per task
Infrequent	Limited to 1 exposure or no exposure per task.

Exposure Level	
Term	Definition
Catastrophic	Any injury resulting in death, dismemberment, amputation, or irreversible effects to due exposure.
Serious	Any injury resulting in medical treatment above first aid (i.e. broken bones, stitches, acute illness, etc.).
Moderate	Any injury resulting in first aid treatment (i.e. cold pack, hot pack, message, band aid, etc.) skin, or mucous membrane irritation.
Minor	Any incident requiring no first aid treatment

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Risk Level	
Term	Definition
High	Any exposure to a catastrophic injury.
Medium	Any exposure to a serious injury.
Low	Frequent exposure but low injury severity
Negligible	Infrequent exposure and low injury severity

Protective Measures (Alternative Methods)	
Term	Definition
Administrative Controls	The use of safe work procedures and practices that are developed and implemented where engineered safe guards, warning and alerting techniques or a combination there of do not provide an acceptable level of protection.
Area Scanners	Devices which detect objects or persons entering the sensing field or hazardous area. Their application is typically indicated for covering large or irregularly shaped areas.
Guards	Barrier that prevents entry of the operators body from entering the point of operation or hazard area.
Hold to Run Devices	Devices requiring the individual to use a hand or hands to apply direct pressure to one or more buttons or switches which may control the movement or power supplied to equipment or machinery hazards.
Light Curtains	Devices which create a sensing plane which if interrupted sends a signal to the control circuit which is interlocked and will shut-down power.
Pressure Mats	Devices which detect the presence of a person or object in a danger zone.
Safety Rated Switches	Devices which are mechanically actuated with positively driven multiple contacts.
Trapped Key Devices	Devices which are mechanically attached to power circuits, switches, valves, and access points and require operators to follow a predetermine sequence of actions.
Attendant	Another worker or person used to warn exposed personnel or monitor the effectiveness of the applied safe guard.
Automated Warning System	Audible or visual device used individually or in combination to warn personnel or potentially hazardous conditions.
Barricades	Devices used to prevent access to potentially hazardous areas and may be used in conjunction with warning signs.
Warning Signs and Tags	Symbols or tags used to warn personnel of the hazards which exist.
Apparel	Prohibition of loose or other inappropriate clothing, long hair, or other items that may contact moving machinery.
Illumination	Providing adequate lighting to perform a necessary task in a hazard area.
Preparation for Work	Prior to starting work all authorized employees review existing hazards, written procedures, documented alternative method and control measures to be used to perform work safely.
Training	Knowledge provided on the location and use of alternative methodologies required to perform work safely.

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PPE	Personal Protective Equipment. Areas where engineered safeguards, warning/alerting techniques, safe work procedures or practices, or a combination thereof, do not provide an acceptable level of protection from injury will require the use of PPE.
Other (please identify)	If the above mitigations do not provide protection equal to or greater than Lockout/Tagout, then please list other methods used.